ORDER NO. HAD8606576C0
A2

Service Manual

Turntable System

SL-J33

SL-J33

QUARTZ Direct Drive
Automatic Turntable System

Color	Areas
(S) (K)	[M] ..... U.S.A.
(S) (K)	[MC] ... Canada.
(S) (K)	[E] ..... Switzerland and Scandinavia.
(S) (K)	[EK] .... United Kingdom.
(S) (K)	[XL] .... Australia.
(S) (K)	[EG] ... F.R. Germany.
(S) (K)	[EB] .... Belgium.
(S) (K)	[EH] .... Holland.
(S) (K)	[EF] .... France.
(S) (K)	[Ei] ..... Italy.
(S) (K)	[EC] .... Czechoslovakia.
(S) (K)	[XA] .... Asia, Latin America, Middle near East, Africa and Oceania.
(K)	[PA] .... Far East PX.
(K)	[PE] .... European Military.

Color

(S)..... Silver Type
(K) .... Black Type

T4P is the standard mark for the "P-mount" plug-in-connector system. Products carrying this mark are interchangeable and compatible with each other.

SPECIFICATIONS

■ TURNTABLE SECTION

Type: Automatic turntable
Drive method: Direct drive
Motor: Brushless-DC motor
Drive control method: Quartz-phase-locked control
Turntable platter: Aluminum die-cast
Diameter 300 mm (12")
Turntable speeds: 33-1/3 rpm and 45 rpm
Wow and flutter: 0.012% WRMS*
0.025% WRMS (JIS C5521)
±0.035% Weighted zero to peak
(IEC 98A weighted)

* This rating refers to turntable assembly alone, excluding effects of record, cartridge or tonearm, but including platter. Measured by obtaining signal from built-in frequency generator of motor assembly.

Rumble: 78 dB DIN-B
(IEC 98A weighted)
56 dB DIN-A
(IEC 98A unweighted)
Speed deviation: Within ±0.002%

■ TONEARM SECTION

Type: Static-balanced, Linear tracking tonearm
Plug-in-connector type straight tonearm
Effective length: 105 mm (4-1/8")
Tracking error angle: ±0.1°
Effective mass: 9 g (including cartridge)
Resonance frequency: 12 Hz (with 6 g cartridge weight, 1.25 g stylus pressure, 12×10^{-6} cm/dyne compliance)
Stylus pressure: 1.25 g (fixed)

■ CARTRIDGE SECTION (Except for U.S.A. and Canada.)

Type: Moving magnet stereo cartridge
Frequency response: 10 Hz~40 kHz
Output voltage: 2.5 mV at 1 kHz, 5 cm/s. zero to peak velocity
(7 mV at 1 kHz, 10 cm/s. zero to peak 45° velocity [DIN 45 500])
Channel separation: 22 dB at 1 kHz
Channel balance: Within 1.8 dB at 1 kHz
Recommended load impedance: 47 kΩ~100 kΩ
Compliance (dynamic): 12×10^{-6} cm/dyne at 100 Hz
Stylus pressure range: 1.25±0.25 g
Weight: 6 g (cartridge only)
Replacement stylus: EPS-30ES

Technics

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■ GENERAL

Power supply:

For U.S.A. and Canada:
AC 120V, 60 Hz
For Continental Europe:
AC 220V, 50 Hz
For United Kingdom
and Australia:
AC 240V, 50 Hz
For others:
~ 110—127/220—240V, 50/60 Hz

Power consumption: 9 W
Dimensions (W×H×D): 315×88×315 mm
(12-1/2"×3-1/2"×12-1/2")
Weight: 4.1 kg (9 lb.)

Specifications are subject to change without notice for further improvement.
Weight and dimensions shown are approximate.

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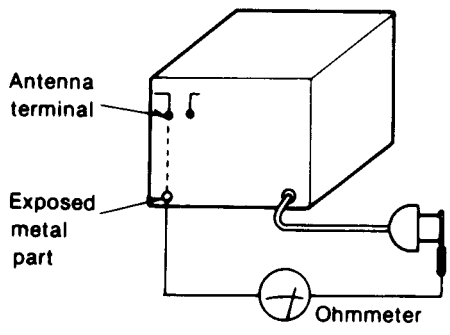
■ SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

• INSULATION RESISTANCE TEST

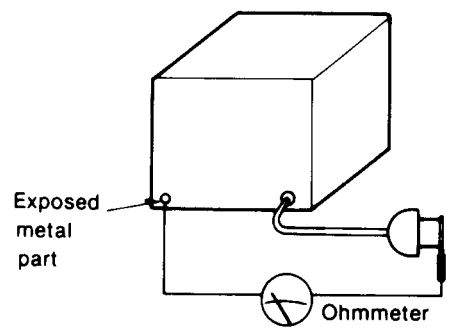
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance = 3MΩ—5.2MΩ



(Fig. B)

Resistance = Approx ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

ORDER NO. HAD8606576C0-A

QUARTZ Drirect Drive
Automatic Turntable System

SL-J33

DEUTSCH

■ MESSUNGEN UND JUSTIERUNGEN

Verwendete Geräte und Zustand des Gerätes

- Empfindlichkeits-Wahlschalter.....M
- Oszilloskop
- Gleichstrom-Voltmeter
- Plate (SFTR007) für Justierung

STARTPOSITION

1. Ein 30 cm-Schallplatte auflegen.
2. Den Netzschalter auf "On" stellen und die Start-Taste drücken.
3. Wenn die Nadel zu weit innen oder zu weit außen auf der Platte aufsetzt, ist die Startposition durch Drehen der Justierschraube zu justieren.
   - **Im Uhrzeigersinn** ..... Der Nadelaufsetzpunkt wird nach innen verschoben.
   - **Entgegen dem Uhrzeigersinn** ..... Der Nadelaufsetzpunkt wird nach außen verschoben.

SENSORVERSTÄRKUNG

1. Gleichstrom-Voltmeter an IC401, Stift 12 (+) und Masse schließen.
2. Die Platte für Justierung mit Seite A auflegen und Das Gehäuseoberteil schlißen.
3. Den Ein/Aus-Schalter einschalten. Der Tonarm ist in der Ruheposition. (Unbespielter Teil der Platte.)
4. **VR401** so abgleichen, daß die Ausgangsspannung **8,5V±0,3V** verträgt.

SENSORAUFLÖSUNG

1. Den Plattengröße-Wahlschalter auf "manual" stellen.
2. Das Oszilloskop an IC401, Stift 9 (+) und Masse schließen.
3. Die Platte für Justierung mit Seite A auflegen und Das Gehäuseoberteil schließen.
4. Den Ein/Aus-Schalter einschalten. Den F-Überspring-Schalter gedrückt halten, um den Tonarm zu bewegen. (Ausgangsleistung tritt auf zwischen den Musikstücken.)
5. **VR402** so abgleichen, daß die maximale Ausgangsleistung zwischen den Musikstücken **3V±0,3V** beträgt.

NADEL-ABSENKPOSITION

1. Leistungsdraht mit Klemme an CN301, Shift 1 und Shift 5 der Betriebs-Platine anschließen. (Stummschaltungsbetrieb stoppt.)
2. Das Gehäuseoberteil öffnen und den Gehäuseschalter mit Klebband in der gedrückten Stellung arreitieren.
3. Die Platte für Justierung mit Seite B auflegen. Das Gehäuseoberteil schließen.
4. Das Gerät an den Verstärker anschließen. (Die Lautsprecher an die Lautsprecher-Anschlüsse anschließen.)
5. Den Ein/Aus-Schalter einschalten. Die Programmtaste 2 und anschließend den Startschalter drücken.
6. **VR302** so justieren, daß die Absenkposition bei "**13**" auf der Skala ist.

SERVO-VERSTÄRKUNG UND OFFSETSPANNUNG

1. Die Staubabdeckhaube entfernen.
2. Das Gleichstrom-Voltmeter an BT501, Stift 3 und Stift 5 anschließen.
3. Den Netzschalter auf "On" stellen.
4. **VR501** so justieren, daß die Spannung bei vollständig nach rechts gedrehtem Tonarm (Offsetwindel-Sensor "offen") **6V** beträgt. (**Servo-Verstärkungs-Justierung**)
5. Den Tonarm in die Mitte zurückstellen und überprüfen, ob die Spannung **3V** beträgt.
6. Falls die Spannung nicht **3V** beträgt, so ist sie durch Drehen der Offsetspannungs-Justierschraube zu justieren. (**Offsetspannungs-Justierung**)

FRANÇAIS

■ MESURAGES ET REGLAGES

Équipement utilisé et conditions de service de l'appareil

- Sélecteur de sensibilité.....M
- Oscilloscope
- Voltmètre à C.C.
- Disque (SFTR007) pour la mise au point

POSITION DE DÉMARRAGE

1. Placer un disque de 30 cm.
2. Tourner l'interrupteur d'alimentation sur "on" (en circuit), et appuyer sur la touche de démarrage.
3. Si la pointe de lecture s'abaisse trop à l'intérieur ou à l'extérieur du disque, régler la position de démarrage en tournant la vis de mise au point.
   - **Sens des aiguilles d'une montre** ..... La position de descente de la pointe de lecture se déplace vers l'intérieur.
   - **Sens inverse des aiguilles d'une montre** .... La position de descente de la pointe de lecture se déplace vers l'extérieur.

GAIN DU DISPOSITIF DÉRECTEUR

1. Raccorder le voltmètre à C.C. à la broche 12 (+) de IC401 et à la masse.
2. Installer le disque pour la mise au point avec le côté A vers le haut. Refermer le boîtier supérieur.
3. Mettre en marche l'interrupteur d'alimentation. Le bras de lecture est à la position de repos. (Zone vierge du disque.)
4. Ajuste **VR401** de telle sorte que la tension de sortie soit de **8,5V±0,3V**.

RÉSOLUTION DU DISPOSITIF DÉTECTEUR

1. Sélecteur du diamètre de disques sur "manual".
2. Raccorder l'oscilloscope à la broche 9 (+) de IC401 et à la masse.
3. Installer le disque pour la mise au point avec le côté A vers la haut. Refermer le boîtier supérieur.
4. Mettre en circuit l'interrupteur d'alimentation. Maintenir enfoncé le commutateur de saut F pour déplacer le bras de lecture. (La puissance de sortie est déliverée entre les plages.)
5. Ajuster **VR402** de tells sorte que la puissance de crête entre les plages soit de **3V±0,3V**.

POSITION DE POSE/RELEVAGE DE LA POINTE DE LECTURE

1. Raccorder le filde jonction avec attache à la broche 1 et à la broche 5 de CN301 du circuit de fonctionnement. (Arrête fonctionnement de l'accord silencieux.)
2. Ouverir le boîtier supérieur et maintenir appuyée la touche du boîtier avec une bande adhésive.
3. Installer le disque pour la mise au point avec le côté B vers le haut. Refermer le boîtier supérieur.
4. Raccorder l'appareil à o'amplificateur. (Raccorder les haut-parleurs aux bornes des hautparleurs.)
5. Mettee en circuit l'interrupteur d'alimentation. Appuyer respectivement sur la touche de programmation 2 et sur la touche de mise en marche.
6. Régler **VR302** de telle sorte que la position descendante soit au comptage de "**13**".

AMPLIFICATION SERVO-MÉCANIQUE ET TENSION D'ÉCART DE RÉGLAGE

1. Retirer le couvercle protège-poussière.
2. Raccorder un voltmètre à C.C. à la broche 3 et à la broche 5 de BT501.
3. Tourner l'interrupteur d'alimentation sur "on" (en circuit).
4. Régler **VR501** de telle sorte que la tension soit de **6V** avec le bras de lecture complètement tourné à droite (dispositif de détection de l'angle de décalage "ouvert"). (**Réglage de l'amplification servomécanique**)
5. Faire revenir le bras de lecture vers le centre et s'assurer que la tension soit de **3V**.
6. Si la tension n'est pas de **3V**, la régler en tournant la vis de mise au point de tension de décalage. (**Réglage de la tension de décalage**)

ESPAÑOL

■ MEDICIONES Y AJUSTE

Equipos usados y estado del aparato

- Selector de sensibilidad.....M
- Osciloscopio
- Voltímetro de corriente continua
- Disco (SFTR007) de ajuste

POSICIÓN DE ARRANQUE

1. Colocar un disco de 30 cm.
2. Prender el interruptor de alimentación y apretar el botón de arranque.
3. Si la aguja cae demasiado dentro o demasiado fuera del disco, ajustar la posición de arranque girando el tornillo de ajuste.
   - **A la derecha** ..... Posición de caída de aguja es cambiada adentro.
   - **A la izquierda** ..... Posición de caída de aguja es cambiada afuera.

GANANCIA DEL SENSOR

1. Conectar el voltímetro de C.C. a 12 pernos (+) de IC401 y tierra.
2. Colocar el disco de ajuste con el lado A mirando hacia arriba. Cerrar el gabinete superior.
3. Encender el interruptor de la corriente. El brazo sonoro está en la posición de descanso. (Area negra del disco.)
4. Regular **VR401** de manera tel que la tensión de salida sea de **8,5V±0,3V**.

RASOLUCIÓN DEL SENSOR

1. Poner el selector de tamaño de discos en "manual".
2. Conectar el osciloscopio a 9 pernos (+) de IC401 y tierra.
3. Colocar el disco de ajuste con el lado A mirando hacia arriba. Cerrar el gabinete superior.
4. Encender el interruptor de la corriente. Mantener el interruptor de salto F oprimido para mover el brazo sonoro. (La salida se suministra entre las piezas.)
5. Regular **VR402** de manera tal que la salida de cresta entre las piezas sea de **3V±0,3V**.

POSICIÓN DE DESCENSO DE AGUJA

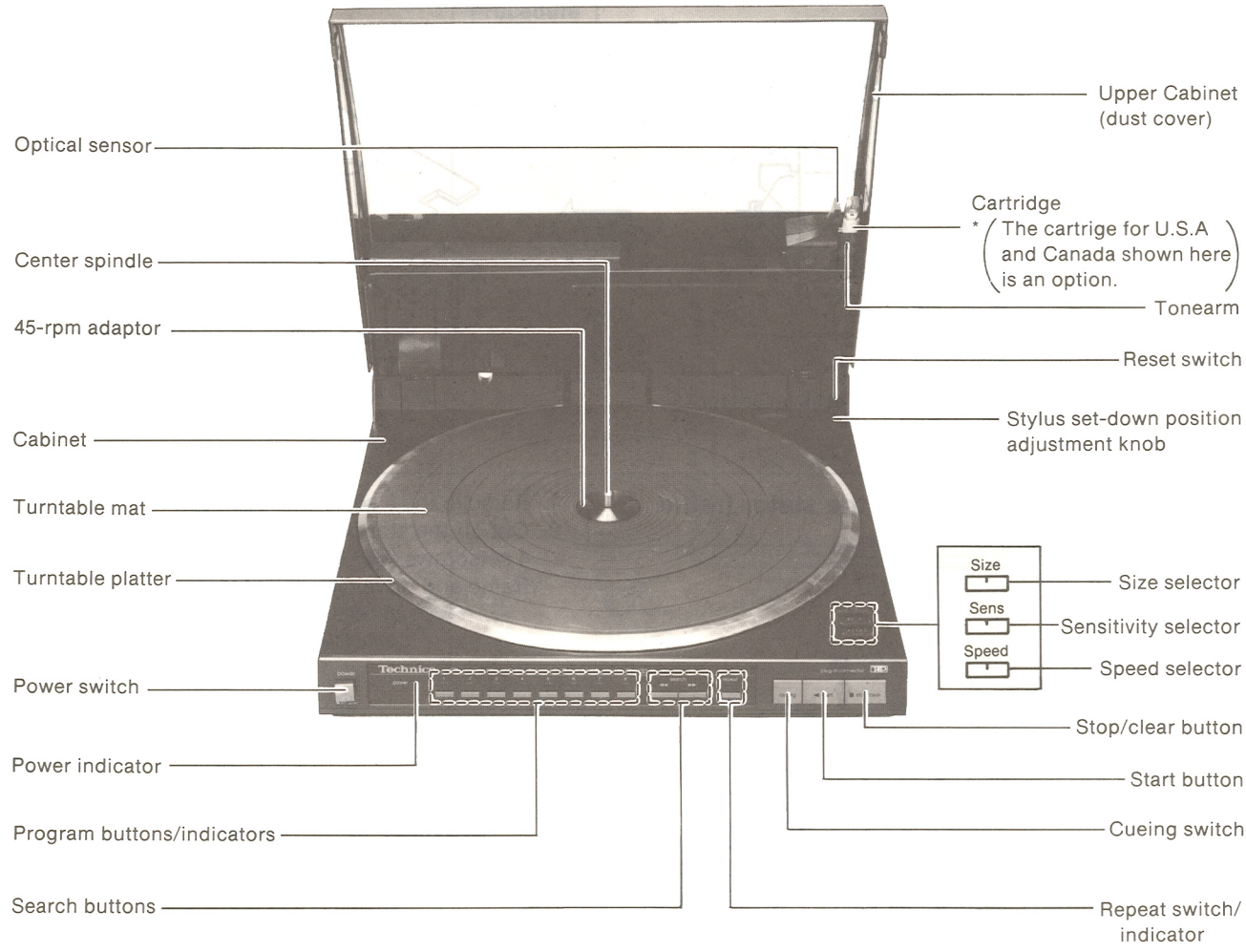
1. Conectar el hilo conductor con clip a 1 pernos y 5 perno CN301 de tablero de circuitos de operation. (Cesa la operación de silenciamiento.)
2. Abrir el gabinete superior y sujetar el interruptor del mismo con cinta.
3. Colocar el disco de ajuste con el lado B mirando hacia arriba. Cerrar el gabinete superior.
4. Conectar el aparato al amplificador. (Conectar los altoparlantes a los bornes para conexión de los mismos.)
5. Encender el interruptor de la corriente. Apretar la tecla de programa 2 seguida del interruptor de arranque.
6. Regular **VR302** de manera que la posición de descenso esté en conteo "**13**".

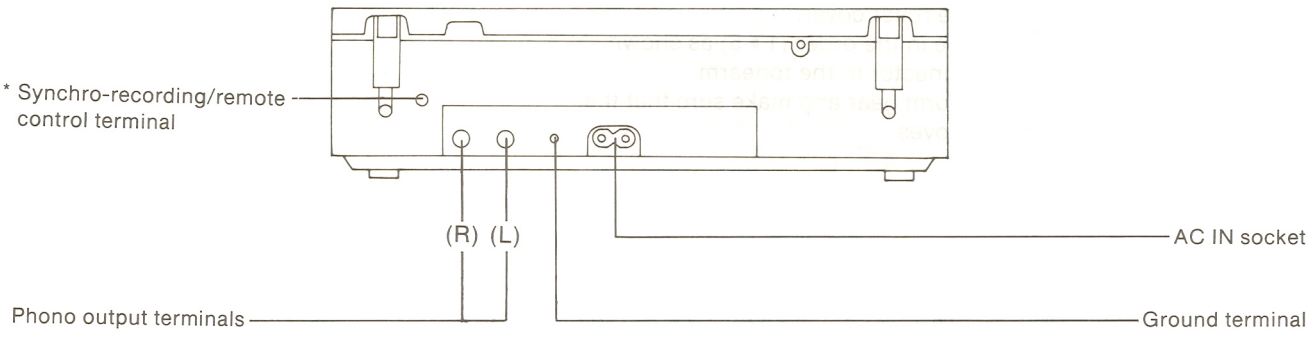
CANANCIA DEL SERVOME CANISMO Y TENSIÓN DE DESNIVEL

1. Remover la tapa contra el polvo.
2. Conectar un voltímetro de CC a perno 3 y perno 5 de BT501.
3. Prender el interruptor de alimentación.
4. Ajustar **VR501** de manera que el voltaje sea **6V** con el brazo del fonocaptor girado a la derecha (sensor de ángulo del fonocaptor "abierto"). (**Ajuste de servo ganancia**)
5. Volver el brazo del fonocaptor al centro y asegurarse de que el voltaje es **3V**.
6. Si el voltaje no es **3V**, ajustarlo girando el tornillo de ajuste de voltaje desnivel. (**Ajuste de voltaje de desnivel**)

Printed in Japan
860605900 Ⓢ HS

■ LOCATION OF CONTROLS



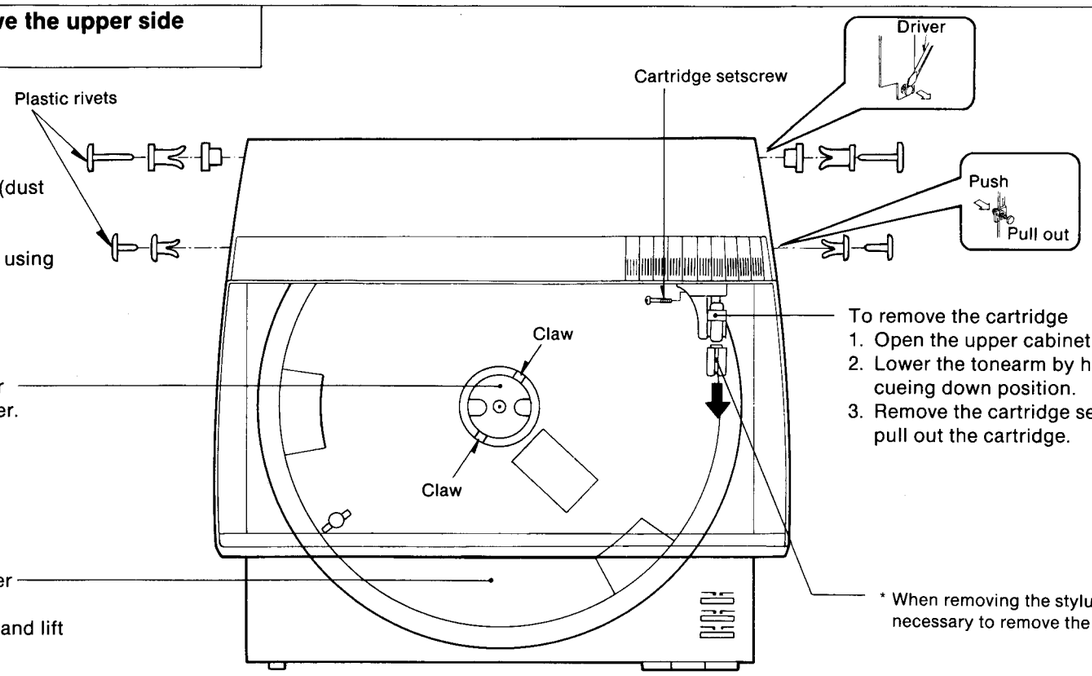


* The product for the U.S.A. and Canada: This terminal is used as both synchro-recording terminal and remote control terminal.

The product for other areas: This terminal is used as synchro-recording terminal.

■ DISASSEMBLY INSTRUCTIONS

Ref. No. 1	How to remove the upper side parts
Procedure 1	



To remove the upper cabinet (dust cover)
1. Open the upper cabinet.
2. Remove the 4 plastic rivets using the screwdriver.

To remove the 45 rpm adaptor
1. Remove the turntable platter.
2. Turn the 45 rpm adaptor counterclockwise.
3. Release the 2 claws.

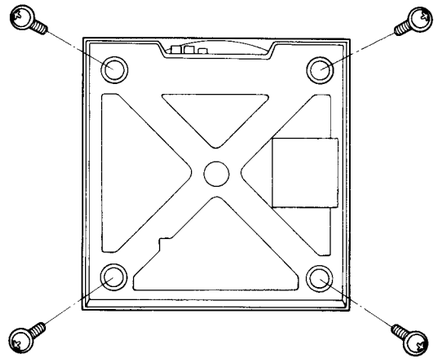
To remove the turntable platter
1. Open the upper cabinet.
2. Remove the turntable mat, and lift the turntable platter.

To remove the cartridge
1. Open the upper cabinet.
2. Lower the tonearm by hand to the cueing down position.
3. Remove the cartridge setscrew and pull out the cartridge.

* When removing the stylus, it is not necessary to remove the cartridge.

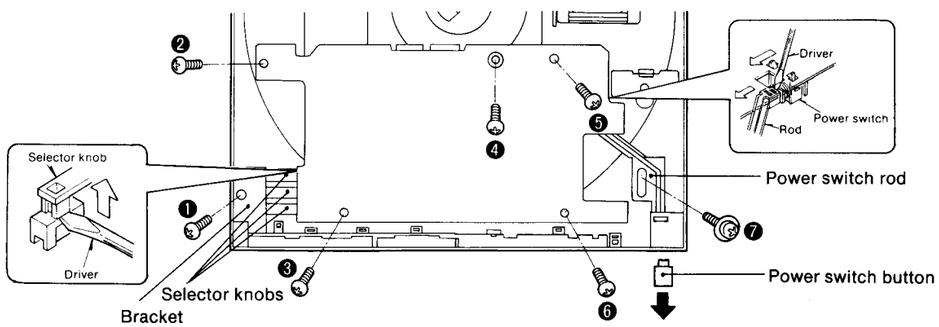
Ref. No. 2	How to remove the bottom board
Procedure 2	

1. Remove the turntable platter.
2. Turn over the unit on a soft cloth.
3. Remove the 4 setscrews.

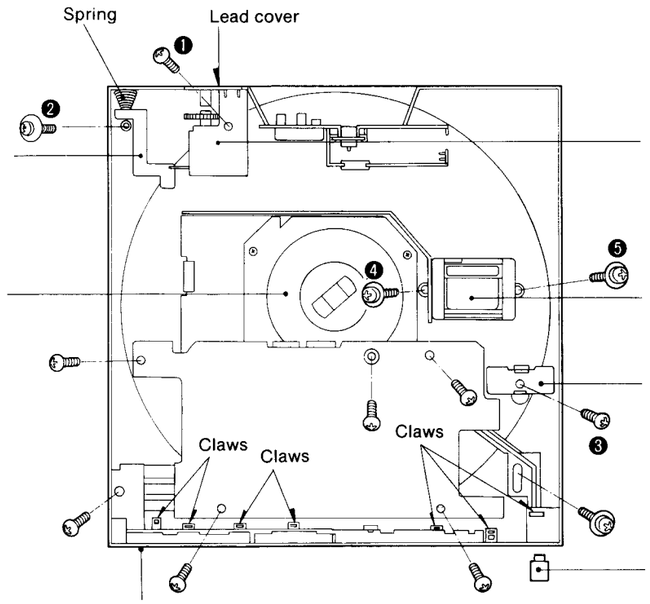


Ref. No. 3	How to remove the main P.C.B.
Procedure 2 ➧ 3	

1. Pull off the power switch button.
2. Remove the bracket setscrew ❶, and remove the bracket.
3. Remove the 6 setscrews (❷~❼).
4. Lift the main P.C.B. with the power switch rod.



Ref. No. 4	How to remove the lower side parts
Procedure 2 ➧ 4	



To remove the reset switch lever
1. Remove the setscrew ❷.
2. Remove the reset switch lever with the spring.

To remove the stator frame Ass'y
- Refer to "How to remove the stator frame" (Ref. No. 8) on page 8.

To remove the reset switch P.C.B.
1. Remove the setscrew ❶.
2. Slide up the reset switch P.C.B. with the lead cover.

To remove the power transformer
1. Remove the 2 setscrews (❹, ❺).
2. Lift the power transformer.

To remove the fuse P.C.B. (Except for [M] area)
1. Remove the setscrew ❸.
2. Release the claw.

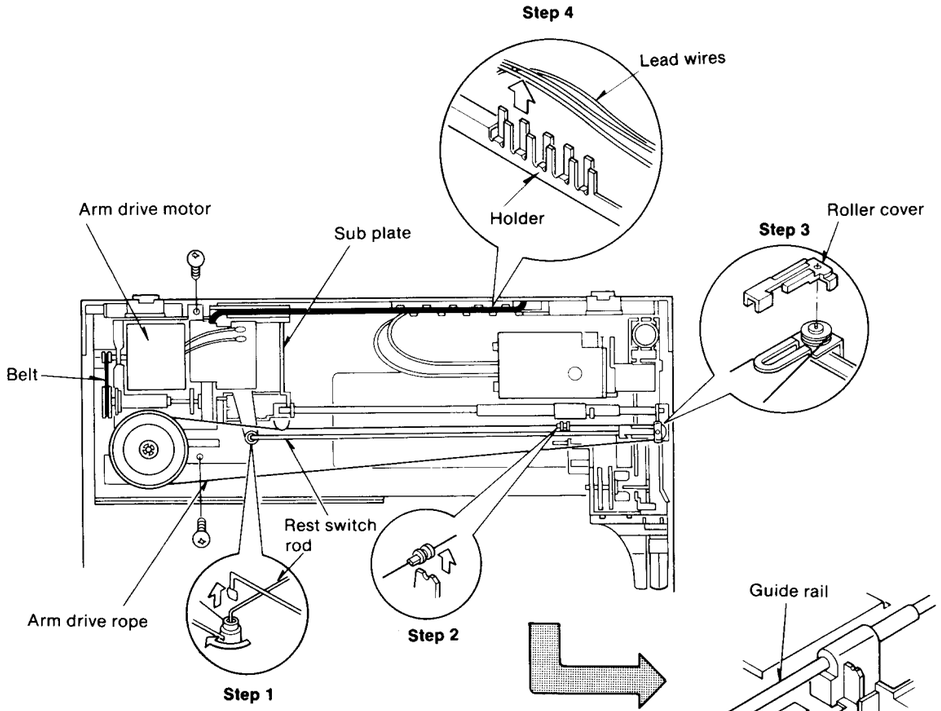
To remove the front panel
1. Remove the power switch button.
2. Release the 7 claws.
3. Slide up the front panel.

* When removing the key switch P.C.B., release the claws with care.

Ref. No. 5	How to remove the tonearm unit
Procedure 1 ➧ 5	

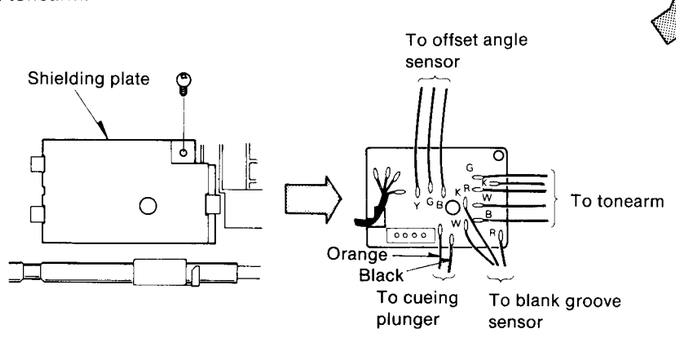
- To remove the arm drive motor.

1. Remove the Belt.
2. Unsolder the motor leads.
3. Remove the 2 setscrews of sub-plate.
4. Lift the sub-plate and remove the motor with care not to let the arm drive rope come loose.
5. Remove the rest switch rod. (**Step 1**)
6. Remove the arm drive rope. (**Step 2, 3**)
7. Disconnect the lead from the holder. (**Step 4**)
8. Remove the 2 setscrews of sub-plate.
9. Remove the guide rail from sub-plate.
10. Pull out the guide rail.



Ref. No. 6	How to remove the tonearm
Procedure 1 ➧ 6	

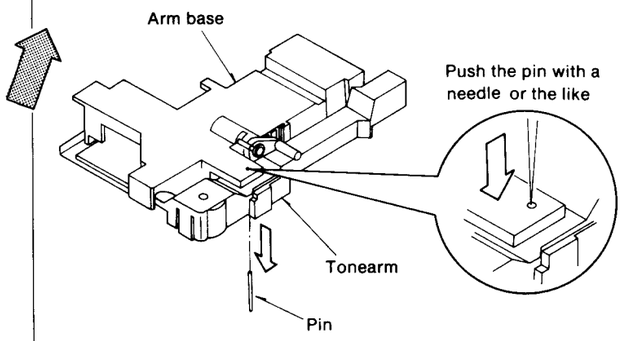
1. Remove the setscrew of shielding plate.
2. Unsolder the 5 leads from tonearm.



P.C.B. marks and lead wire colors

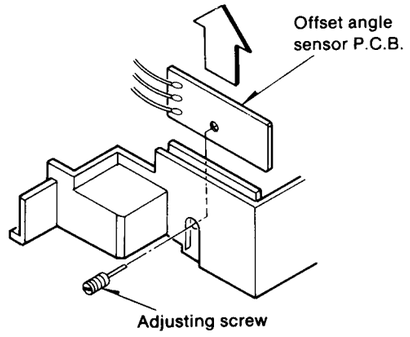
Mark	Color	Mark	Color
R	Red	W	White
G	Green	B	Blue
K	Black	Y	Yellow

3. Turn over the tonearm unit and remove the pin.



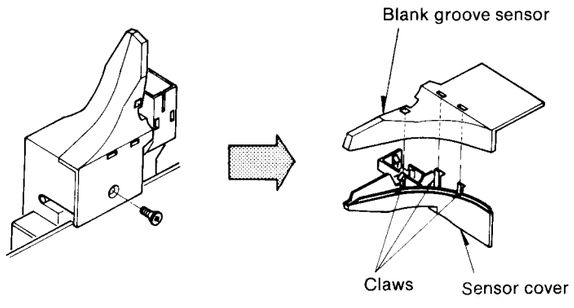
- **How to remove the offset angle sensor**

1. Unsolder the 3 leads from sensor.
2. Remove the adjusting screw. (After assembly, it is necessary to adjust the offset voltage.)



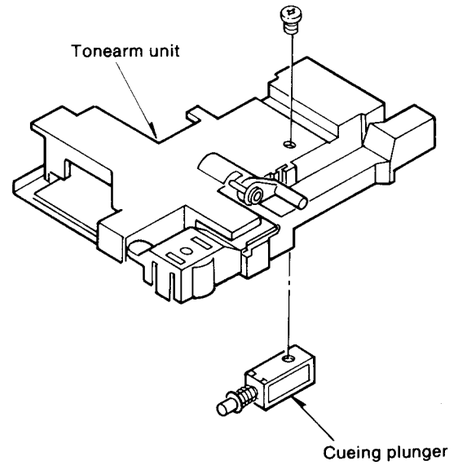
- **How to remove the blank groove sensor**

1. Unsolder the 3 leads from the sensor
2. Remove the setscrew.
3. Release the 3 claws and remove the sensor cover.



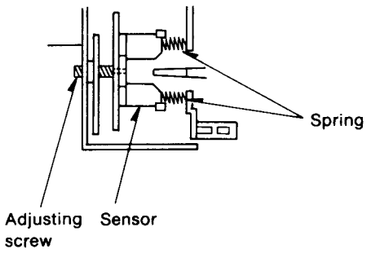
- **How to remove the cueing plunger**

1. Unsolder the 2 leads from plunger.
2. Turn over the tonearm unit and remove the setscrew.
3. Release the 2 claws.

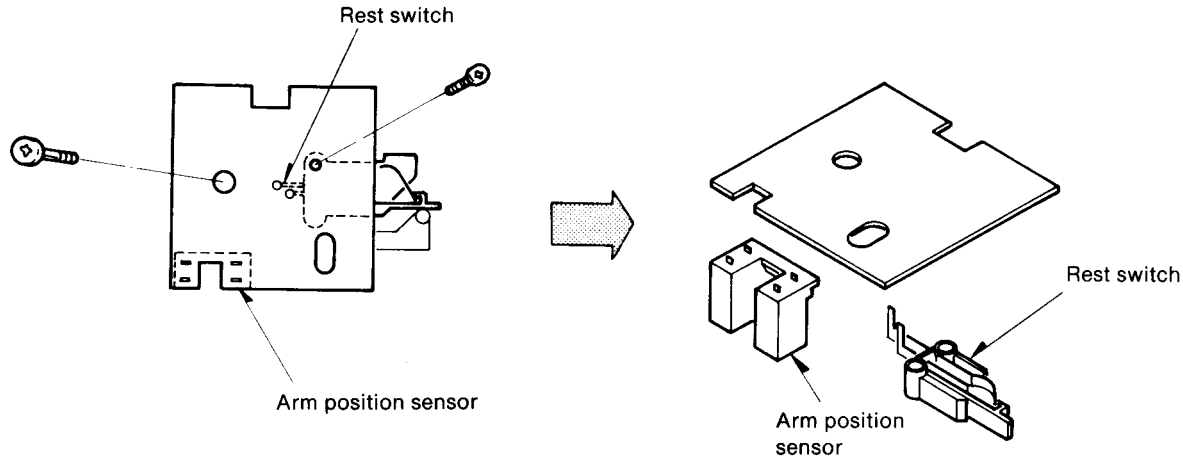


- **Cautions for assembly**

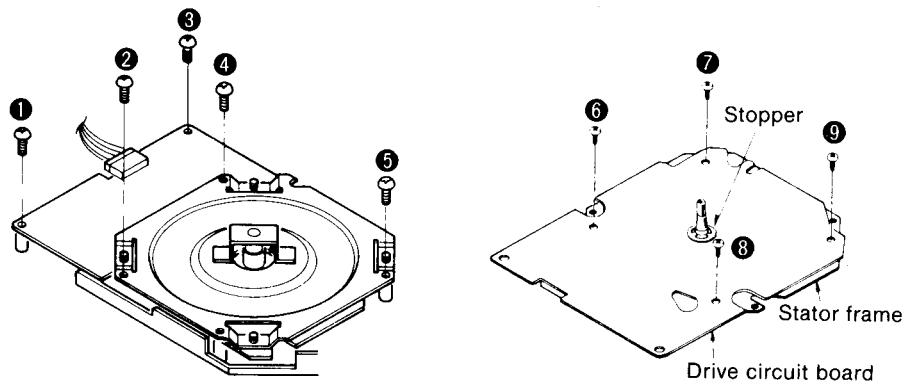
1. The adjusting screw should be aligned to the hole of P.C.B.
2. The springs should push the sensor.



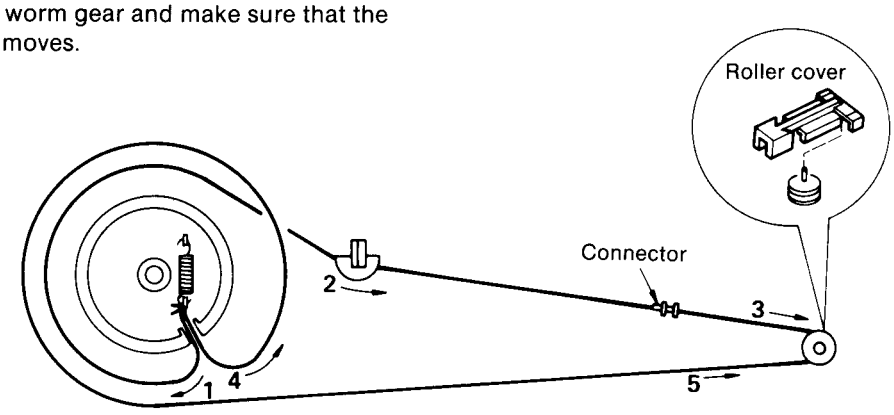
Ref. No. 7	**How to remove the rest switch and arm position sensor**
Procedure 1 ➧ 7	1. Unsolder each terminal. 2. Remove the 2 setscrews.



Ref. No. 8	**How to remove the stator frame**
Procedure 2 ➧ 3 ➧ 8	1. Remove the 5 setscrews (❶~❺). 2. Cut off the stopper with nippers and remove the 4 setscrews (❻~❾) to separate the stator frame and drive circuit board.



Ref. No. 9	**How to set the tonearm drive rope**
Procedure 9	1. Remove the roller cover. 2. Set the rope in the order (1 ➧ 5) as shown. 3. Set the connector to the tonearm. 4. Turn the worm gear and make sure that the tonearm moves.



■ REPLACEMENT PARTS LIST

Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Important safety notice:
   Components identified by ⚠ mark have special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
3. Ⓚ-marked parts are used for black type only, while ◯-marked parts are used for silver type only.
4. Parts other than Ⓚ- and ◯-marked are used for both black and silver types.
5. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
6. The parenthesized numbers in the column of description stand for the quantity per set.

Color	Areas
(S) (K)	[M] ..... U.S.A.
(S) (K)	[MC] ... Canada.
(S) (K)	[E] ..... Switzerland and Scandinavia.
(S) (K)	[EK] .... United Kingdom.
(S) (K)	[XL] .... Australia.
(S) (K)	[EG] ... F.R. Germany.
(S) (K)	[EB] .... Belgium.
(S) (K)	[EH] .... Holland.
(S) (K)	[EF] .... France.
(S) (K)	[Ei] ..... Italy.
(S) (K)	[EC] .... Czechoslovakia.
(S) (K)	[XA] .... Asia, Latin America, Middle near East, Africa and Oceania.
(K)	[PA] .... Far East PX.
(K)	[PE] .... European Military.

Ref. No.	Part. No.	Description
INTEGRATED CIRCUITS		
IC1	AN7812	Integrated Circuit
IC101	AN6638	Integrated Circuit
IC201	AN6683N	Integrated Circuit
IC301	SVILC6520CPB	Integrated Circuit
IC302	SVIM51953BL	Integrated Circuit
IC401	AN6690	Integrated Circuit
IC402	AN6914	Integrated Circuit
TRANSISTORS		
Q1	2SD1423	Transistor
Q301	2SC3311	Transistor
Q302	2SD892	Transistor
Q303	2SC3311	Transistor
Q304, 305	2SA1309	Transistor
Q306	2SC3311	Transistor
Q307 [M, MC] only	2SC3311	Transistor
Q308 [M, MC] only	2SA1309	Transistor
Q309~311	2SA1309	Transistor
Q401, 402	UN4111	Transistor
Q403	2SC3311	Transistor
DIODES		
D1	⚠SVDS1WB40	Rectifier
D2	MA4056	Zener
D5	SVDSEL1121R	LED
D304~312	SVDSEL1121R	LED
D314~324	1SS254	Diode
D501, 502	1SS254	Diode

Ref. No.	Part. No.	Description
VARIABLE RESISTORS		
VR302	EVJE1AF20B54	Stylus Cue-Down Position Adj., 50kΩ (B)
VR401	EVN57JA00B55	Sensor Gain Adj., 500kΩ (B)
VR402	EVN57JA00B25	Sensor Resolution Adj., 200kΩ (B)
VR501	EVN61AA00B53	Servo Gain Adj., 5kΩ (B)
RELAY		
RLY1	SFDYG5A237P	Muting Relay
CRYSTALS		
X201	SVFCSA419MGF	4.19MHz
X301	SVFCSB800D	Clock Frequency OSC
PHOTO INTERRUPTERS		
PC501	ON1186	Offset Angle Sensor
PC502	SFPABJ2201A	Blank Groove Sensor
PC601	ON1161	Tonearm Position Sensor
POWER TRANSFORMER		
T1 [M]	⚠SLTLJ33-KM	Power Source
T1 [MC]	⚠SLTLJ33-KMC	Power Source
T1 [EK, XA] [PA, PE]	⚠SLTLJ33-KEK	Power Source
T1 [XL]	⚠SLTLJ33-KXL	Power Source
T1 [other]	⚠SLTLJ33-KE	Power Source

Ref. No.	Part. No.	Description
SWITCHES		
S1	⚠SFDSC02N02	Power Switch
S301~314	EVQQS405K	Start, Stop, Skip-Search, Cueing, Repeat and Program
S315	SSSB4	Speed Selector
S316	SSSB5	Sensitivity Selector
S317	SSSB4	Size Selector
S320	SFDSD05N01	Reset Switch
S601	SFDSJ22N02	Rest Switch
S901 [EK, XA] [PA, PE] only	⚠SFDSHXW225-3	Voltage Selector Switch
FUSE		
F1 [MC]	⚠XBA2F08NU100	250V, 800mA
F1 [EK, XA] [PA, PE]	⚠XBA2C02TB0	250V, T200mA
F1 except [M, MC] [EK, XA] [PA, PE]	⚠XBA2C05TB0	250V, T500mA
F2 [EK, XA] [PA, PE] only	⚠XBA2C06TB0	250V, T630mA
HALL ELEMENTS		
H101, 102	OH-002	Turntable Position Detecting

Ref. No.	Part. No.	Description	
CABINET AND CHASSIS PARTS			
1	○ SGDB60-0SB	Dust Cover	(1)
1	Ⓚ SGDB60-0KB	Dust Cover	(1)
2	SFGZJ02N01	Rubber Cushion, Dust Cover	(2)
3	○ SFUMQ06N08	Lutch, Dust Cover	(2)
3	Ⓚ SFUMQ06N22	Lutch, Dust Cover	(2)
4	○ SFUMD04N07	Lutch, Dust Cover	(2)
4	Ⓚ SFUMC02N14	Lutch, Dust Cover	(2)
5	○ SFGZQ06N01	Rubber, Lutch	(2)
5	Ⓚ SFGZC02N01	Rubber, Lutch	(2)
6	SFTGQ06N01	Turntable Mat	(1)
7	SFWEJ02N01	45 r.p.m Adaptor	(1)
8	SFQAC06N01	Spring	(1)
9	SFTEJ02N01	Turntable Platter	(1)
10	SFTMC07-01E	Magnet	(1)
11	SFAUJ02N01	Bottom Cover	(1)
12	SFQCC05N01	Spring, Insulator	(4)
13	SFGAJ02N01	Insulator	(4)
14	○ SKMB650-0SA	Cabinet	(1)
14	Ⓚ SKMB650-0KA	Cabinet	(1)
15	○ SFKTC06N04	Button, Power Switch	(1)
15	Ⓚ SBCB220-0C	Button, Power Switch	(1)
16 [M, MC]	○ SGYLJ33-SM	Front Panel Ass'y	(1)
16 [other]	○ SGYLJ33-SE	Front Panel Ass'y	(1)
16 [M, MC]	Ⓚ SGYLJ33-KM	Front Panel Ass'y	(1)
16 [other]	Ⓚ SGYLJ33-KE	Front Panel Ass'y	(1)
16-1	SFKKJ11N02	Label, T4P	(1)
17	○ SGXB40-1KB	Ornament Plate	(1)
17	Ⓚ SGXB40-0KB	Ornament Plate	(1)
19	○ SBCB190-0SC	Operation Button	(1)
19	Ⓚ SBCB190-0CC	Operation Button	(1)
20	○ SFKTJ22N02	Operation Button	(1)
20	Ⓚ SBCB210-0CA	Operation Button	(1)
21 [M]	SGTB136	Name Plate	(1)
21 [MC]	SGTB137	Name Plate	(1)
21 [E, EC]	SGTB138	Name Plate	(1)
21 [EG]	SGTB139	Name Plate	(1)
21 [EK]	SGTB141	Name Plate	(1)
21 [XA]	SGTB142	Name Plate	(1)
21 [PA, PE]	SGTB143	Name Plate	(1)
21 [XL]	SGTB144	Name Plate	(1)
21 [other]	SGTB140	Name Plate	(1)
22	SFATJ11N01A	Hinge	(2)
23	SFGKQ06N01	Rubber Cap	(1)
24	⚠SJSB4	AC Socket	(1)
25 except [EK, XA]	○ SKMB660-0SA	Cover, Voltage Select Switch	(1)
25 except [EK, XA PA, PE]	Ⓚ SKMB660-0KA	Cover, Voltage Select Switch	(1)
26	○ SKMB670-0SA	Cover, Lead Wire	(1)
26	Ⓚ SKMB670-0KA	Cover, Lead Wire	(1)

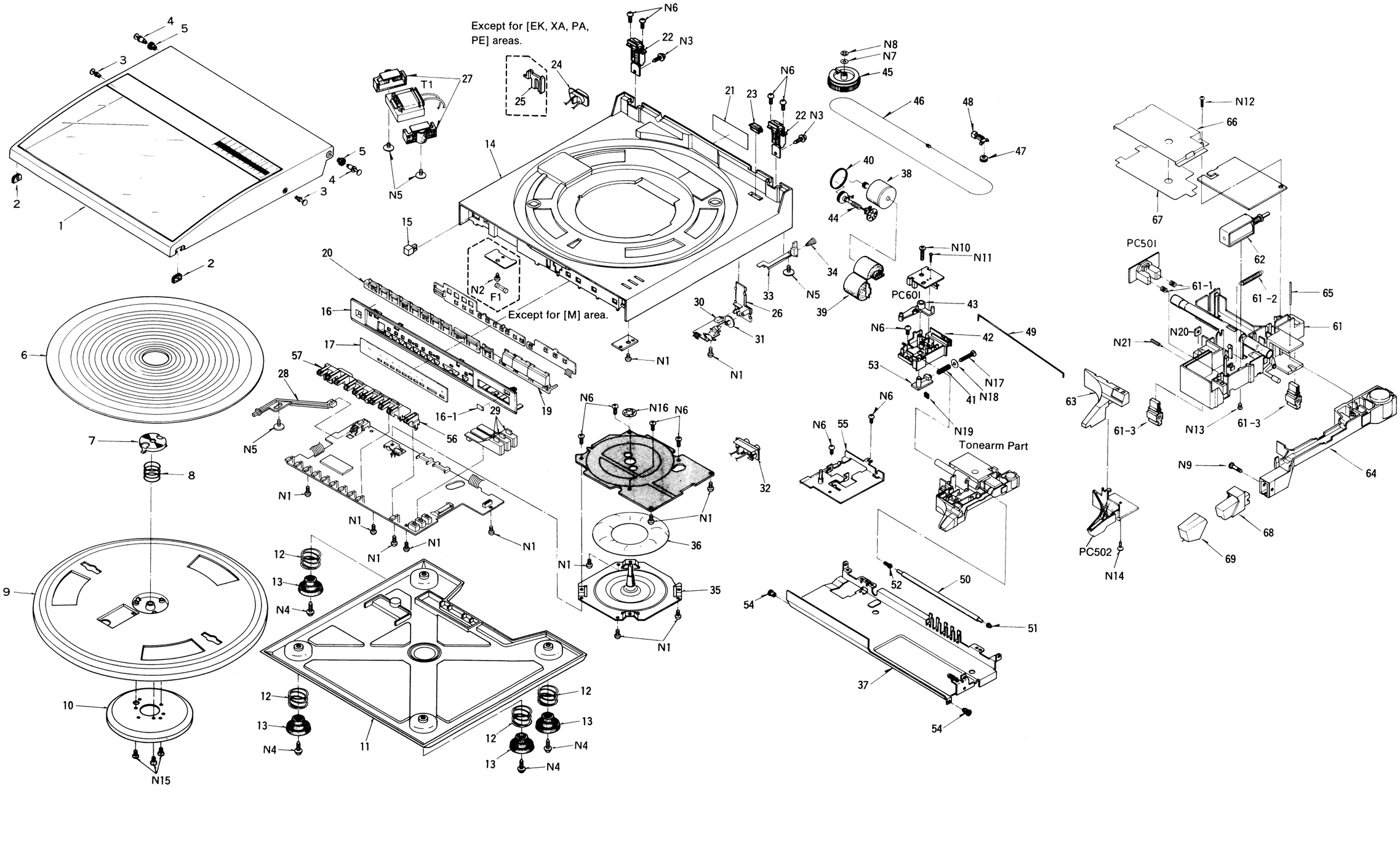
Ref. No.	Part. No.	Description	
27 [EK, XA PA, PE]	SFGCQ06X01	Rubber Cushion, Power Transformer	(2)
27 [other]	SFGCQ06N02	Rubber Cushion, Power Transformer	(2)
28	SFUMJ11N07	Rod, Power Switch	(1)
29	SFKTJ02N02-1	Knob, Select Switch	(3)
30	SFDJD04N02	Jack, Synchro Rec	(1)
31	SFKTQ06N02	Knob, Cueing Down Position Control	(1)
32	SFEHJ22N01E	Jack, Phono Output	(1)
33	SFUMJ22N03	Lever, Dust Cover	(1)
34	SFQAJ22N01	Spring	(1)
35	SFMZC06N01R	Stator Frame Ass'y	(1)
36	SFMGQ34N01	Cover, Coil	(1)
37	SUKB18E	Base, Tonearm Drive Motor	(1)
38	SMNLJ11D-KM	Motor, Tonearm Drive	(1)
39	SHRB52	Cover, Tonearm Drive Motor	(1)
40	SFGBC10-01	Belt	(1)
41	SFQA913-01	Spring, Adjustment Screw	(1)
42	SFUMJ11N04	Base, Rest Switch	(1)
43	SFUMJ11N05	Lever, Rest Switch	(1)
44	SHRB66A	Worm Gear	(1)
45	SFUML11R03	Wheel, Tonearm Drive	(1)
46	SFUZC05N02E	Rope Ass'y, Tonearm Drive	(1)
47	SFUMC05N22	Roller	(1)
48	SFUMV05N23	Holder, Roller	(1)
49	SFUZC02N01	Rod, Rest Switch	(1)
50	SFXJQ06N01	Guide Rail	(1)
51	SFGCC05N05	Rubber Cushion, Guide Rail	(1)
52	SFGCQ06N01	Rubber Cushion, Guide Rail	(1)
53	SFUMJ11N03	Base, Adjustment Screw	(1)
54	SFGCQ06N03	Rubber Cushion	(2)
55	SUWB19E	Sub Plate, motor	(1)
56	SFUMJ11N02	Holder, LED	(1)
57	SFUMJ22N01	Holder, LED	(1)
TONEARM PARTS			
61	SFPKDJ2201E	Tonearm Base Ass'y	(1)
61-1	SFPSP00302	Spring	(2)
61-2	SFPSP00504	Spring	(1)
61-3	SFPGML1101	Rubber Cushion	(2)
62	SFDZJ11N02E	Plunger Ass'y	(1)
63	SFPABJ2202	Cover, Sensor	(1)
64	SFPAMJ1101A	Tonearm Ass'y	(1)
65	SFPJKJ1102	Shaft	(1)
66	SFPABJ1101	Shield Plate	(1)
67	SFPZBJ1101	Sheet	(1)
68 except [M, MC]	EPC-P30AK	★ Cartridge	(1)
69 except [M, MC]	EPS-30ES	★ Stylus	(1)
SCREWS, WASHERS AND NUT			
N1	XTV3+10G	Screw, ⊕3×10	(12)
N2 except [M]	XTV3+10G	Screw, ⊕3×10	(1)
N3	XTW3+14TFZ	Screw, ⊕3×14	(2)
N4	XTW3+14QFYR	Screw, ⊕3×14	(4)
N5	SFXGQ06N01	Screw	(4)
N6	XTV3+6J	Screw, ⊕3×6	(11)
N7	XWE3A8BW	Washer	(1)
N8	CSTW-3	C-ring	(1)

Ref. No.	Part. No.	Description	
N9	SFPEV0Q601	Screw, Cartridge	(1)
N10	XYC3+EJ20	Screw, ⊕3×20	(1)
N11	XTN2+12J	Screw, ⊕2×12	(1)
N12	XTV3+8G	Screw, ⊕3×8	(1)
N13	XYN2+C4FZ	Screw, ⊕2×4	(1)
N14	XTS26+6JFZ	Screw, ⊕2.6×6	(1)
N15	XTN3+5J	Screw, ⊕3×5	(3)
N16	SFXWC06N02	Washer	(1)
N17	XSN3+20S	Screw, ⊕3×20	(1)
N18	XWE3D10	Washer	(1)
N19	XNC3HS	Nut	(1)
N20	SFXN623-1	Nut	(1)
N21	SFPTN00301	Screw, Adjustment	(1)
ACCESSORIES			
A1 [M]	SQX54002	Instruction Book	(1)
A1 [MC]	SQXLJ33-KMC	Instruction Book	(1)
A1 [EK]	SQX54006	Instruction Book	(1)
A1 [EG]	SQX54008	Instruction Book	(1)
A1 [EF]	SQX54007	Instruction Book	(1)
A1 [Ei]	SQX54009	Instruction Book	(1)
A1 [XL, XA PA, PE]	SQX54004	Instruction Book	(1)
A1 [other]	SQXLJ33-KE	Instruction Book	(1)
A2	SFDHEQ1N01	Phono Output Cord	(1)
A3	SFDLJ11N01E	Ground Wire	(1)
A4 [M, MC]	⚠SJA170	AC Cord	(1)
A4 [EK]	⚠SFDAC05G02	AC Cord	(1)
A4 [XL]	⚠SJA163	AC Cord	(1)
A4 [XA, PA PE]	⚠SJA168-1	AC Cord	(1)
A4 [other]	⚠SFDAC05E02	AC Cord	(1)
A5 [XA] only	⚠SJP9215	Adaptor	(1)
A6 [M, MC] only	SJP2257K	Remote Control Cord	(1)
PACKING PARTS			
P1 [M]	○ SPGB96	Carton Box	(1)
P1 [MC]	○ SPGB97	Carton Box	(1)
P1 [EF]	○ SPGB99	Carton Box	(1)
P1 [other]	○ SPGB98	Carton Box	(1)
P1 [M]	Ⓚ SPGB91	Carton Box	(1)
P1 [MC]	Ⓚ SPGB92	Carton Box	(1)
P1 [EF]	Ⓚ SPGB94	Carton Box	(1)
P1 [other]	Ⓚ SPGB93	Carton Box	(1)
P2	SPSB15	Pad, Front	(1)
P3	SPSB16	Pad, Rear	(1)
P4	SFHKC05N01	Clamper, Turntable Platter	(2)
P5	SFHKJ22N01	Spacer, Tonearm	(1)
P6	SFHSC06N01	Spacer, Dust Cover	(1)
P7	SFYH45X60	Polyethylene Bag, Unit	(1)
P8	SFYP41D32	Sheet	(1)
P9	SFYF32A35	Polyethylene Bag, Turntable Mat	(1)
P10	SFHDD04N01	Pad, Turntable Mat	(1)
P11	SFYH17X16	Polyethylene Bag	(1)

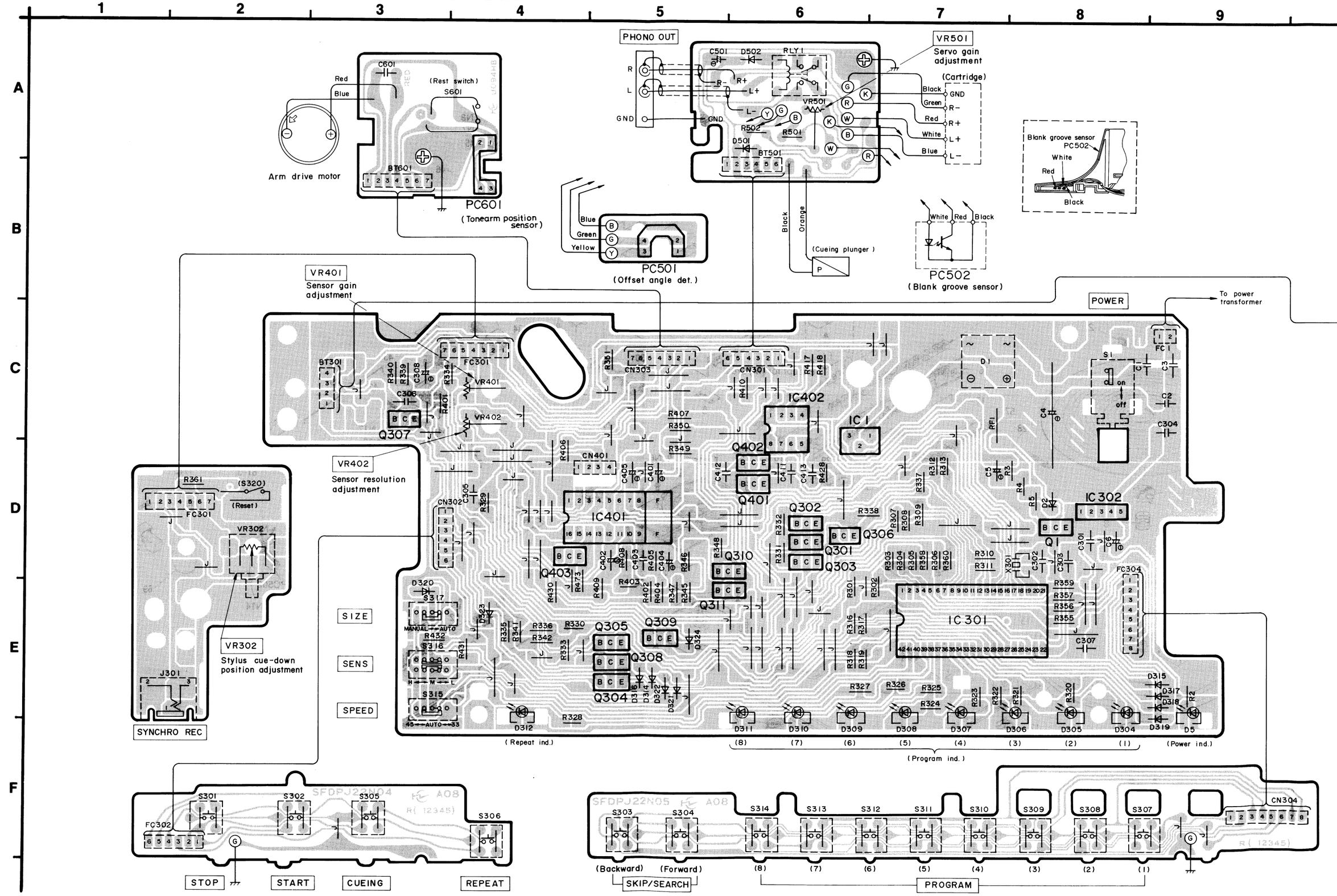
■ EXPLODED VIEW

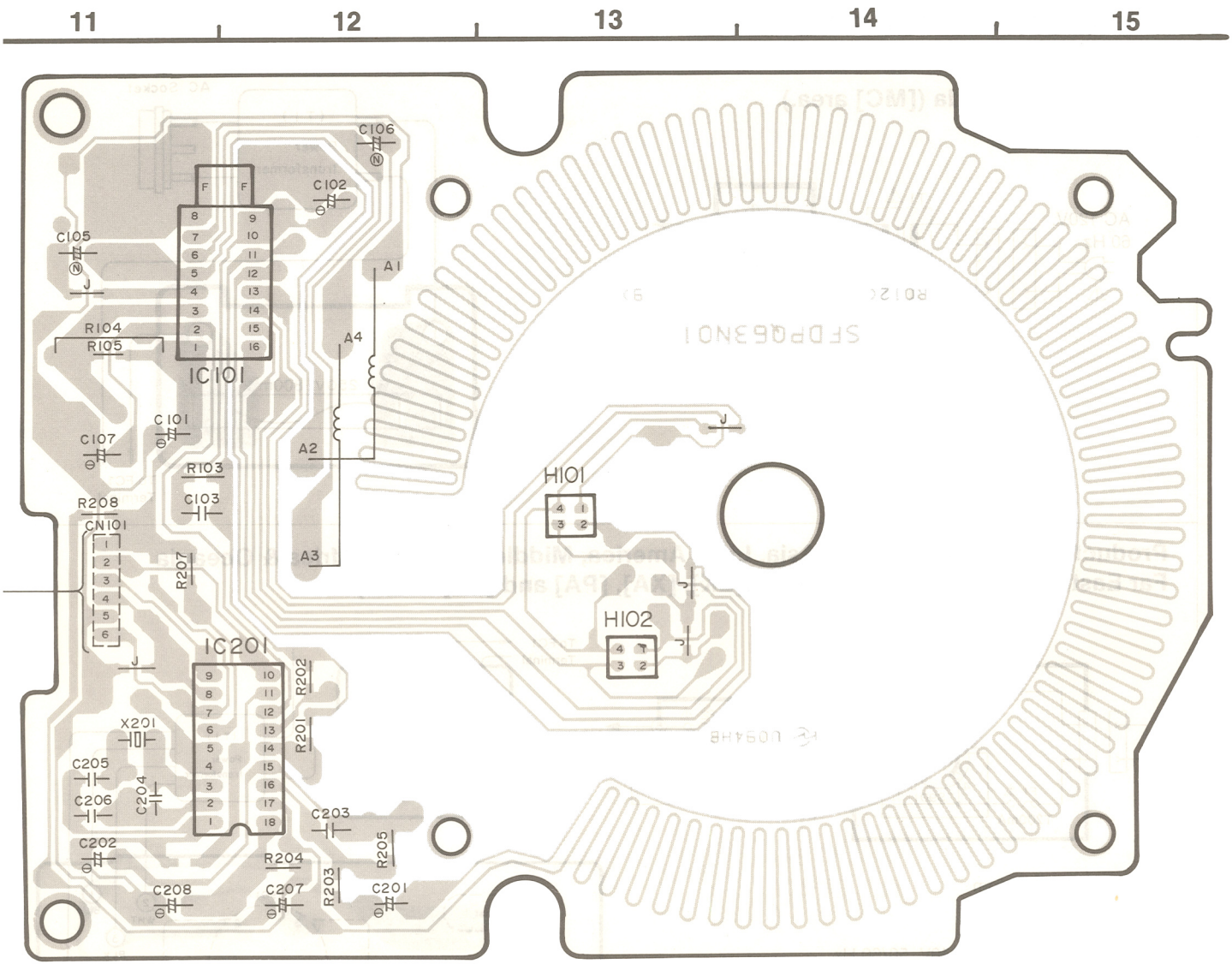
• **Cabinet and chassis parts**

• **Tonearm parts**



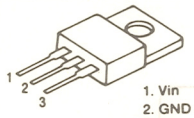
■ CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM

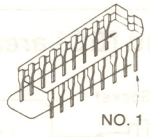




■ TERMINAL GUIDE OF IC's, TRANSISTORS AND DIODES

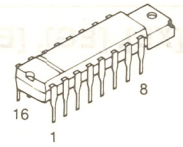
AN7812



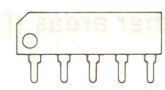


AN6683N	18 pin
SVILC6520CPB	42 pin
AN6914	8 pin

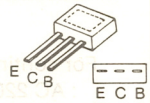
AN6638, AN6690



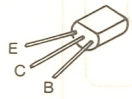
SVIM51953BL



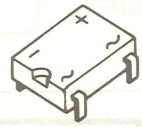
2SD1423, 2SC3311
2SA1309,
SVTDTA114S



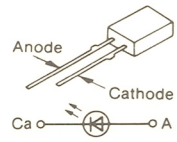
2SD892



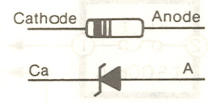
SVDS1WB40



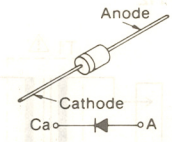
SVDSEL1121R



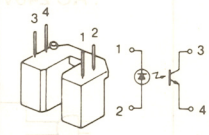
MA4056



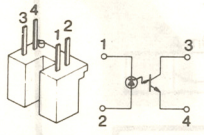
1SS254



ON1186

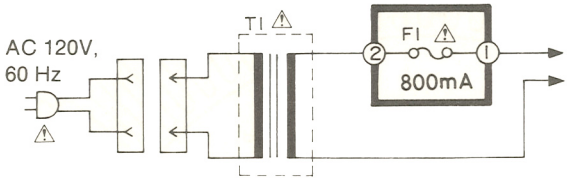


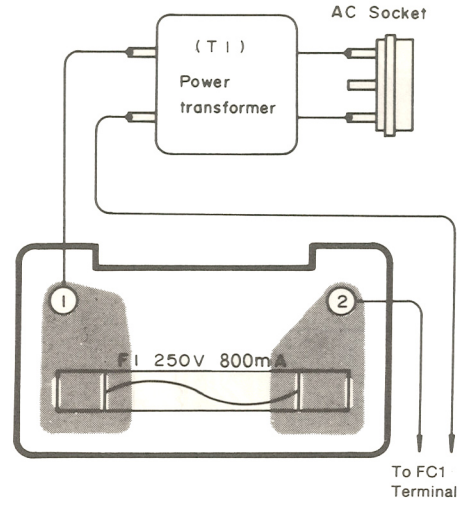
ON1161



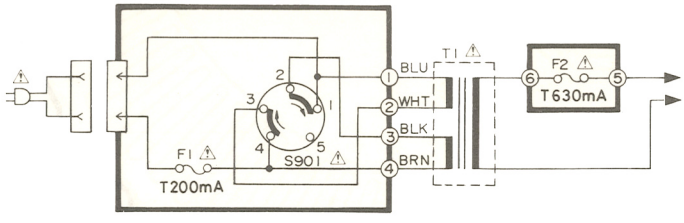
■ POWER SOURCE CIRCUIT

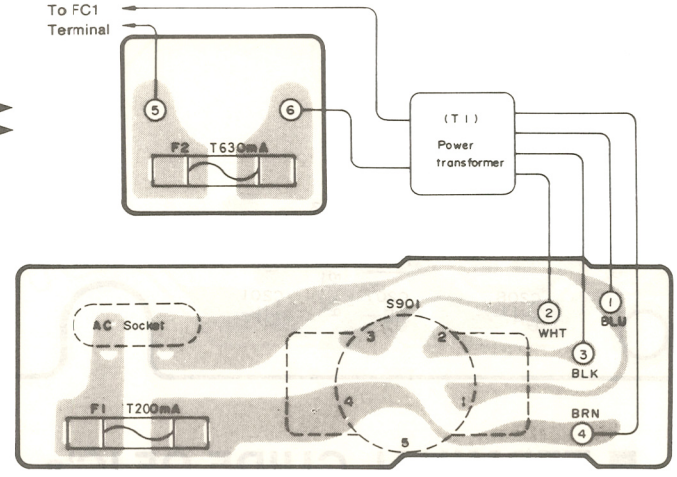
Product for Canada ([MC] area.)





Product for United Kingdom, Asia, Latin America, Middle Near East, Africa & Oceania Far East PX and European Military ([EK], [XA], [PA] and [PE] areas.)

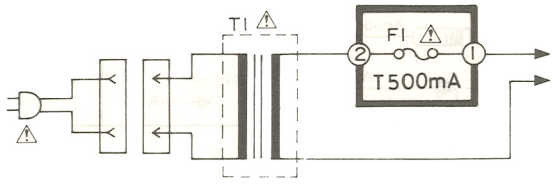


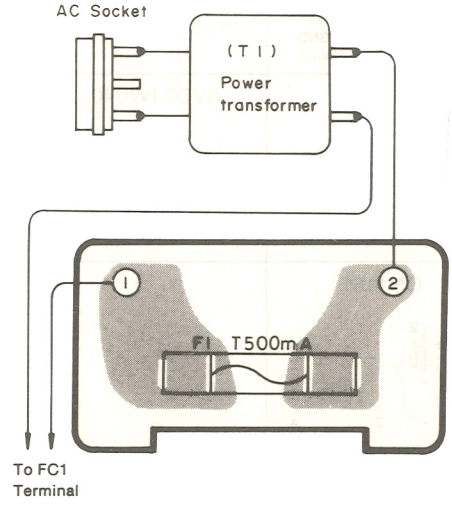


For United Kingdom
: AC 240V, 50 Hz
For other areas
: AC 110~127/220~240V, 50/60 Hz

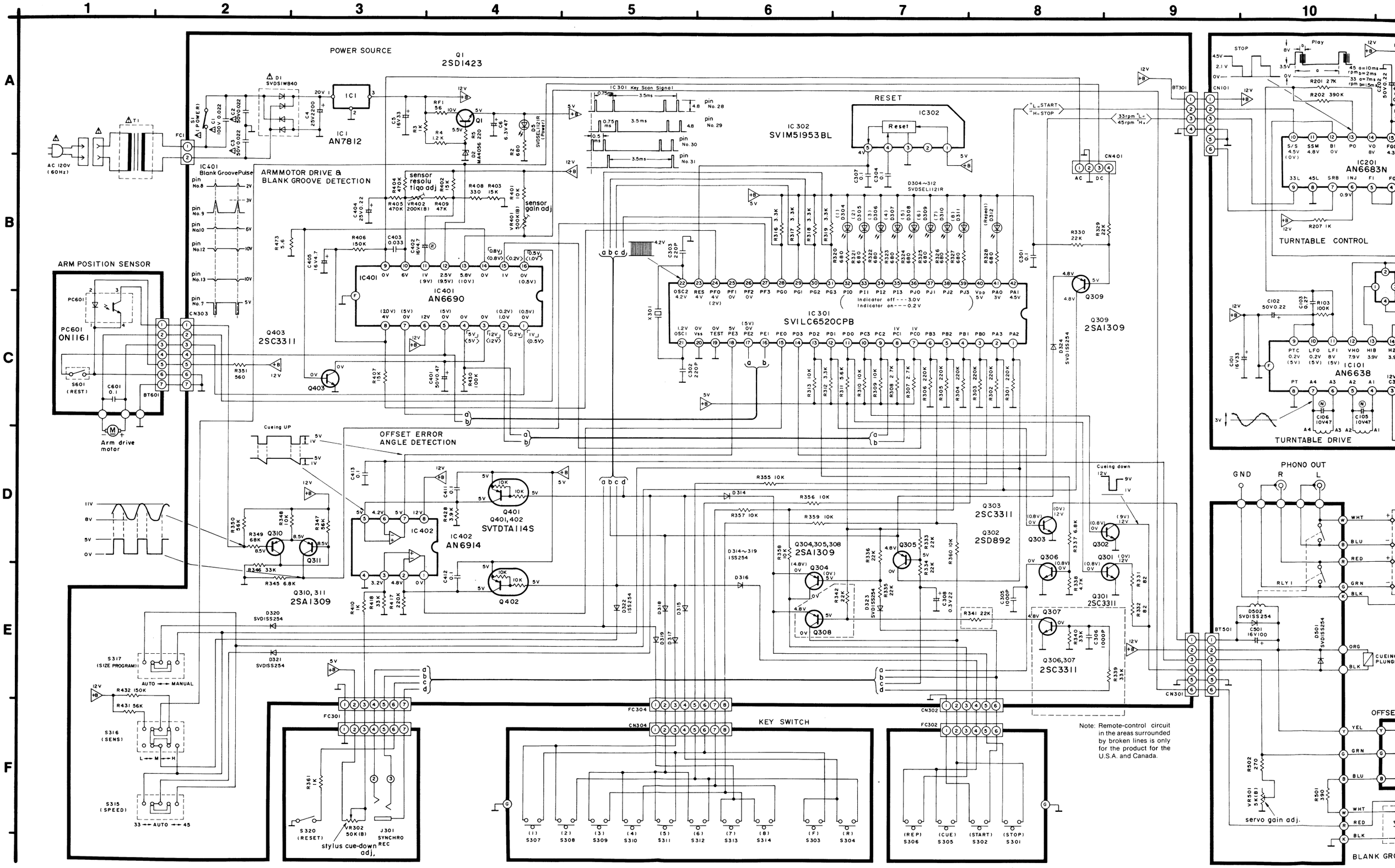
Product for other areas ([E], [XL], [EG], [EB], [EH], [EF], [Ei] and [EC] areas.)

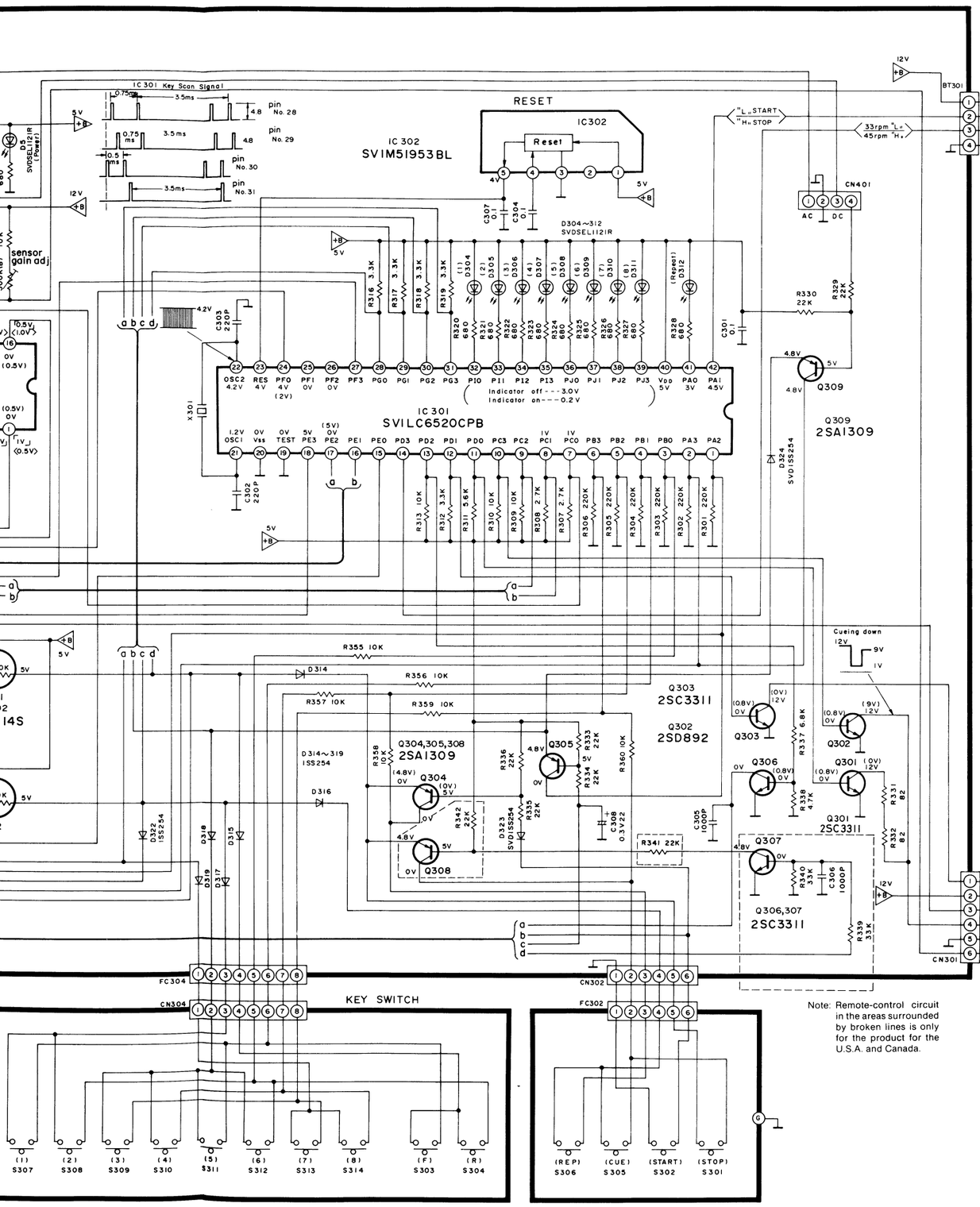
For continental Europe
: AC 220V, 50 Hz
For Australia
: AC 240V, 50 Hz

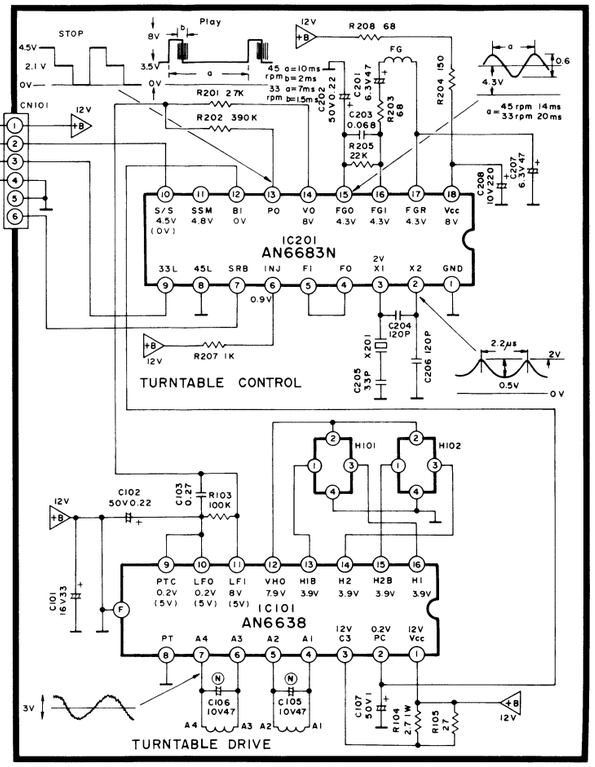


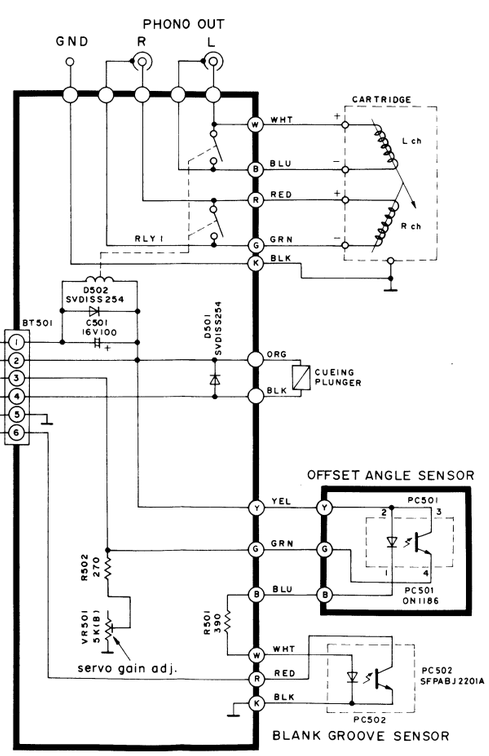


■ SCHEMATIC DIAGRAM (This schematic diagram may be modified at any time with development of new technology.)









Notes:

1. **S1** : Power switch in **"on"** position.
2. **S301** : Stop switch
3. **S302** : Start switch
4. **S303** : Forward skip/search switch.
5. **S304** : Reverse skip/search switch.
6. **S305** : Cueing control switch.
7. **S306** : Repeat switch.
8. **S307~314** : Program switch. (Program key 1~8)
9. **S315** : Speed selector switch in **"auto"** position.
10. **S316** : Sensitivity selector switch in **"M"** position.
11. **S317** : Record size selector switch in **"auto"** position.
12. **S320** : Reset switch in **"off"** position.
13. **S601** : Rest switch in **"off"** position.
14. **S901** : Voltage selector switch. (Product for [EK] [XA] [PA] and [PE] areas only)
15. The voltage value and waveform are the standard values of this unit in the stop motion measured by a DC electronic voltmeter (high impedance) and a oscilloscope on the basis of chassis. Therefore, the voltage value and waveform may include some error due to the internal impedance of the measuring instrument or the unit measured.
    *( ): Voltage in 33 rpm.
16. Important safety notice:
    Components identified by ⚠ mark have special characteristiscs important for safety. When replacing any of these components, use only manufacturer's specified parts.

Caution!

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

- Cover the parts boxes made of plastics with aluminum foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the legs of IC or LSI with the fingers directly.

- **Product for MC only**

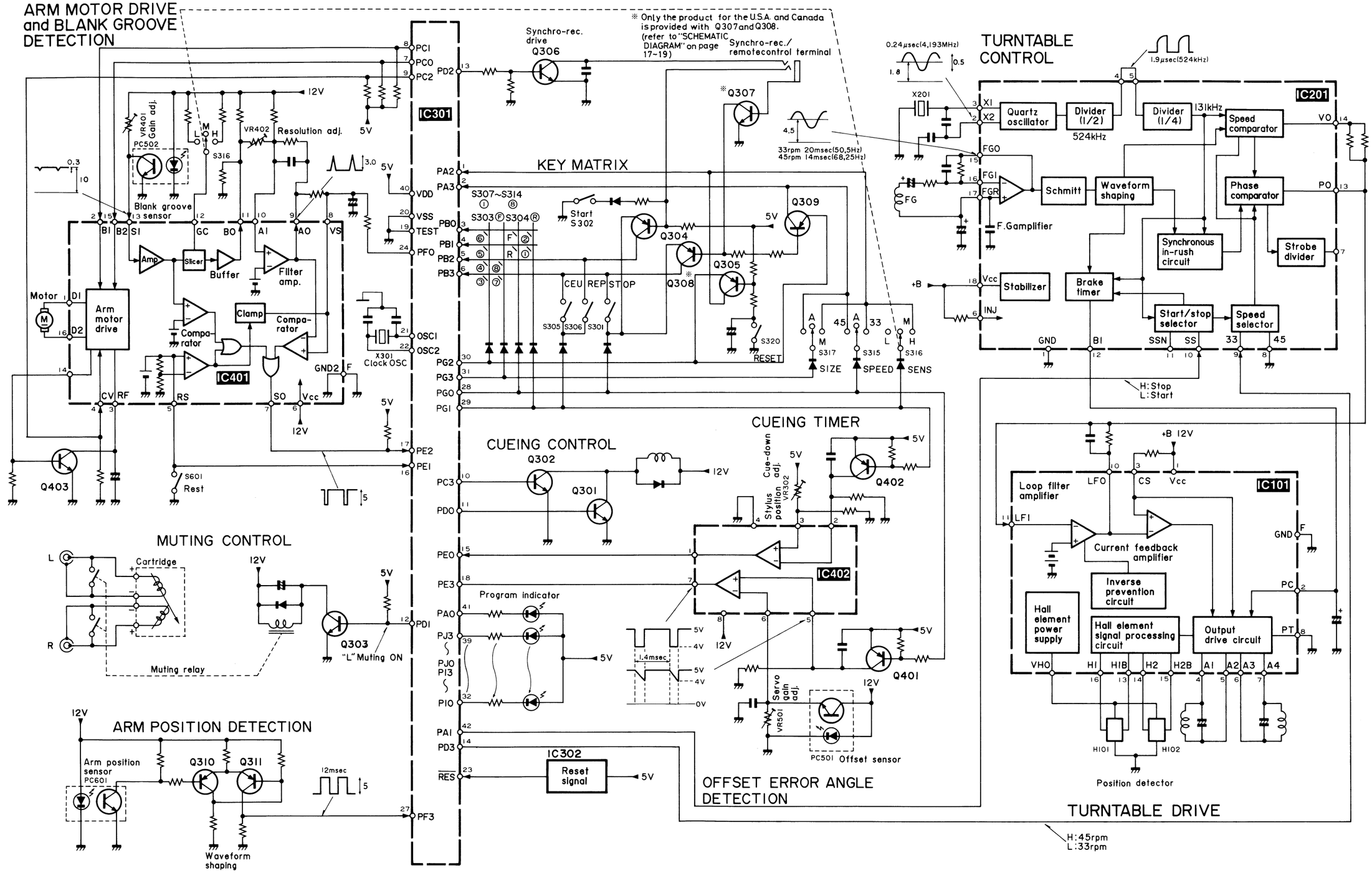
FUSE REPLACEMENT

Symbol located near the fuse indicates fast operating type. For continued protection against fire hazard, replace with same type fuse. Refer to the symbol for fuse rating.

FUSIBLE REMPLACEMENT

Le symbole qui se trouve près du fusible signifie un fusible à action rapide. Pour une protection continue contre les risques d'incendie, n'utiliser que des fusibles du même type. Se rapporter au symbole pour la valeur des fusibles.

■ BLOCK DIAGRAM



■ DESCRIPTION OF SVILC6520CPB (IC301)

No.	Mark	Description
1	PA2	Speed select, reset detection and size select are performed by key scan.
2	PA3	Speed select is performed by key scan.
3	PB0	key scan input (keys are read by key scan of PG ports.)
4	PB1	
5	PB2	
6	PB3	
7	PC0	Arm motor forward control
8	PC1	Arm motor backward control
9	PC2	Arm motor on/off select
10	PC3	Cueing control
11	PD0	
12	PD1	Muting relay control (Muting is off at "H")
13	PD2	Synchro recording control (Synchro recording is on at "H")
14	PD3	Turntable speed select (45 rpm "H", 33 rpm "L")
15	PE0	Reading for stylus cue-down position adjusting time
16	PE1	Tonearm rest position detection ("L" when tonearm is at rest)
17	PE2	Blank pulse detecting signal input terminal
18	PE3	Offset angle detecting signal input terminal
19	TEST	Test terminal
20	VSS	Ground terminal
21	OSC1	Clock oscillation terminal
22	OSC2	
23	RES	Reset terminal (Microcomputor is reset at "L")
24	PF0	Gain select in EP record mode
25	PF1	Not used in this unit
26	PF2	
27	PF3	Tonearm position detecting signal input terminal
28	PG0	Key scan and offset angle read strobe
29	PG1	Key scan and stylus cue-down position read strobe
30	PG2	Key scan output
31	PG3	
32	PI0	Program No. 1 indicator display (lights up at "L")
33	PI1	Program No. 2 indicator display
34	PI2	Program No. 3 indicator display
35	PI3	Program No. 4 indicator display
36	PJ0	Program No. 5 indicator display
37	PJ1	Program No. 6 indicator display
38	PJ2	Program No. 7 indicator display
39	PJ3	Program No. 8 indicator display
40	VDD	Power supply (+5V)
41	PA0	Repeat indicator display
42	PA1	Turntable start/stop select terminal ("L" start, "H" stop)

■ RESISTORS AND CAPACITORS

Notes: 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
3. Unless otherwise specified: All resistors are in OHMS (Ω) K=1000Ω, M=1000kΩ All capacitors are in MICROFARADS (μF), P=10^{-6}μF.

Numbering System of Resistor

Example

ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value
ERG	1	AN	J	2R2
Type	Wattage	Shape	Tolerance	Value

Numbering System of Capacitor

Example

ECKD	1H	102	Z	F
Type	Voltage	Value	Tolerance	Peculiarity
ECEA	50	M	R47	R
Type	Voltage	Peculiarity use	Value	Special use

Resistor Type	Wattage	Tolerance
ERD: Carbon	25 : 1/4W	F : ±1%
ERG: Metal Oxide	1 : 1W	J : ±5%
ERX: Metal Film	2 : 2W	G : ±2%

ERD2FCG□□□ ⟶ Fuse type carbon (1/4W)
ERD10TLJ□□□ ⟶ Chip type carbon (1/8W)
ERDS2TJ□□□ ⟶ Small type carbon (1/4W)
ECUV1H□□□ ⟶ Chip type ceramic capacitor

Capacitor Type			Voltage		Tolerance
			ECEA Type	Others	
ECE	:	Electrolytic	0J : 6.3V	1C: 16V DC	J : ±5%
ECK	:	Ceramic	1A : 10V	1E : 25V DC	K : ±10%
ECC	:	Ceramic	1C: 16V	05 : 50V DC	Z : +80% −20%
ECF	:	Ceramic	1E : 25V	1H: 50V DC	
ECQ	:	Polyester	1H: 50V	1 : 100V DC	
			50 : 50V		

Ref. No.	Part No.	Value
RESISTORS		
RF1	ERD2FCG560	56
R2	ERDS2TJ681	680
R3	ERDS2TJ102	1K
R4	ERDS2TJ122	1.2K
R5	ERDS2TJ221	220
R103	ERDS2TJ104	100K
R104	ERX1ANJ2R7	2.7
R105	ERDS2TJ270	27
R201	ERDS2TJ273	27K
R202	ERDS2TJ394	390K
R203	ERDS2TJ680	68
R204	ERDS2TJ151	150
R205	ERDS2TJ223	22K
R207	ERDS2TJ102	1K
R208	ERDS2TJ680	68
R301~306	ERDS2TJ224	220K
R307, 308	ERDS2TJ272	2.7K
R309, 310	ERDS2TJ103	10K
R311	ERDS2TJ562	5.6K
R312	ERDS2TJ332	3.3K
R313	ERDS2TJ103	10K
R316~319	ERDS2TJ332	3.3K
R320~328	ERDS2TJ681	680

Ref. No.	Part No.	Value
R329, 330	ERDS2TJ223	22K
R331, 332	ERDS2TJ820	82
R333~336	ERDS2TJ223	22K
R337	ERDS2TJ682	6.8K
R338	ERDS2TJ472	4.7K
R339, 340 [M, MC] only	ERDS2TJ333	33K
R341, 342 [M, MC] only	ERDS2TJ223	22K
R345	ERDS2TJ682	6.8K
R346	ERDS2TJ333	33K
R347	ERDS2TJ563	56K
R348	ERDS2TJ103	10K
R349	ERDS2TJ683	68K
R350	ERDS2TJ563	56K
R351	ERDS2TJ561	560
R355~360	ERDS2TJ103	10K
R361	ERDS2TJ102	1K
R401	ERDS2TJ103	10K
R402, 403	ERDS2TJ153	15K
R404, 405	ERDS2TJ474	470K
R406	ERDS2TJ154	150K
R407	ERDS2TJ153	15K

Ref. No.	Part No.	Value
R408	ERDS2TJ331	330
R409	ERDS2TJ473	47K
R410	ERDS2TJ102	1K
R417	ERDS2TJ224	220K
R418	ERDS2TJ333	33K
R428	ERDS2TJ392	3.9K
R430	ERDS2TJ104	100K
R431	ERDS2TJ563	56K
R432	ERDS2TJ154	150K
R473	ERDS2TJ5R6	5.6
R501	ERDS2TJ391	390
R502	ERDS2TJ271	270
CAPACITORS		
C1	⚠ECQG1223KZ	0.022
C2, 3	⚠ECKR1H223ZF	0.022
C4	ECEB1EU222	2200
C5	ECEA1CU330B	33
C6	ECEA0JU470B	47
C101	ECEA1CU330	33
C102	ECEA50ZR22	0.22
C103	ECQV05274JZ	0.27
C105, 106	ECEA1AN470S	47
C107	ECEA1HU010	1
C201	ECEA0JU470	47

Ref. No.	Part No.	Value
C202	ECEA50ZR22	0.22
C203	ECQM1H683KZ	0.068
C204	ECCD1H121KC	120P
C205	ECCD1H330JC	33P
C206	ECCD1H121KC	120P
C207	ECEA0JU470	47
C208	ECEA1AU221	220
C301	ECFR1E104ZF	0.1
C302, 303	ECCR1H221K	220P
C304	ECQG1H104KZ	0.1
C305	ECKR1H102KB	0.001
C306 [M, MC] only	ECKR1H102KB	0.001
C307	ECFR1E104ZF	0.1
C308	ECEA1AU220B	22
C401	ECEA1HUR47B	0.47
C402	ECEA1EN4R7B	4.7
C403	ECQG1H333KZ	0.033
C404	ECEA1HUR22B	0.22
C405	ECEA1EU4R7B	4.7
C411, 412	ECQG1H104KZ	0.1
C413	ECFR1E104ZF	0.1
C501	ECEA1CU101	100
C601	ECFF1C104ZF	0.1

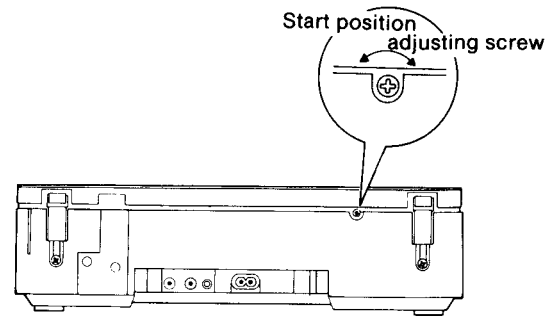
■ MEASUREMENTS AND ADJUSTMENTS

Control position and equipment used

- Sensitivity selector.....M
- Oscilloscope
- DC voltmeter
- Record (SFTR007) for adjustment

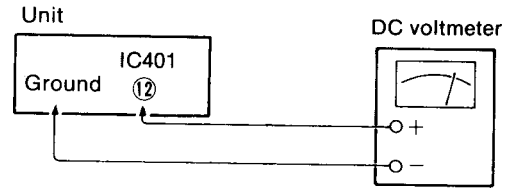
START POSITION ADJUSTMENT

1. Put on a 30 cm record.
2. Turn the power switch "on", and press the start button.
3. If the stylus drops too much inside or outside the record, adjust the start position by turning the adjusting screw.
   - **Clockwise**..... Stylus drop position is shifted inside.
   - **Counterclockwise** ..... Stylus drop position is shifted outside.



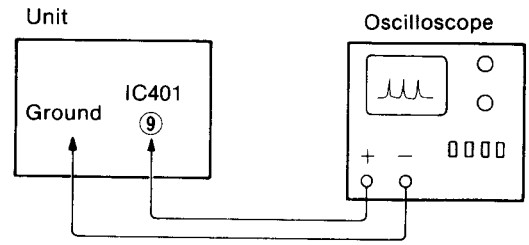
SENSOR GAIN ADJUSTMENT

1. Connect the DC voltmeter to IC401 pin 12 (+) and ground (−).
2. Put on the record with side A up and close the upper cabinet.
3. Turn the power switch on with the tonearm at the rest position. (Blank area of the record.)
4. Adjust **VR401** so that the output voltage is **8.5V±0.3V**



SENSOR RESOLUTION ADJUSTMENT

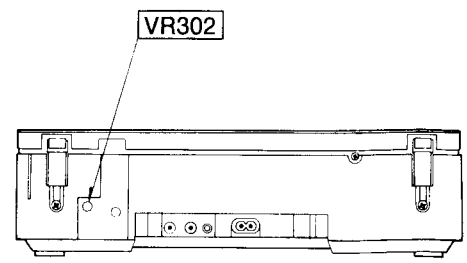
1. Set the size selector to "manual" position.
2. Connect the oscilloscope to IC401 pin 9 (+) and ground (−).
3. Put on the record with side A up and close the upper cabinet.
4. Turn the power switch on and keep the F skip switch depressed to move the tonearm. (Output voltage is delivered between the tunes.)
5. Adjust **VR402** so that the peak output between tunes is **3V±0.3V.**



- Oscilloscope setting
  VOLT.....1V
  SWEEP.....10μsec.
  INPUT.....DC
- Waveform

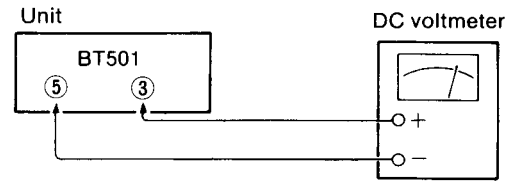
STYLUS CUE-DOWN POSITION ADJUSTMENT

1. Connect lead wire clip to CN301 pins 1 and 5 of operation circuit board. (Muting operation stops.)
2. Open the upper cabinet and hold down the cabinet switch with tape.
3. Put on the record with side B up and close the upper cabinet.
4. Connect the unit to the amplifier. (Connect the speakers to the speaker terminals.)
5. Turn the power switch on and push program key 2, followed by the start switch.
6. Adjust **VR302** so that the descending position is at count "**13**".



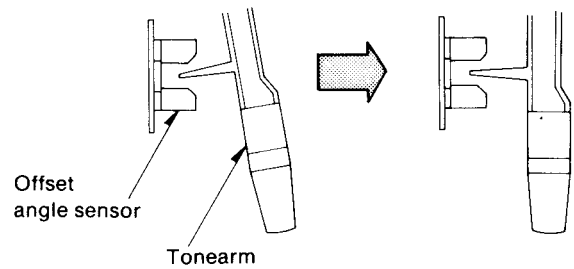
SERVO GAIN AND OFFSET VOLTAGE ADJUSTMENT

1. Remove the dust cover.
2. Connect DC voltmeter to BT501 pin 3 (+) and pin 5 (−).
3. Turn the power switch "on".
4. Turn the **VR501** so that the voltage is **6V** with tonearm completely turned to the right (offset angle sensor "open"). (**Servo gain adjustment**)
5. Return the tonearm to the center and make sure that the voltage is **3V**.
6. If the voltage is not **3V**, adjust it by turning the offset voltage adjusting screw. (**Offset voltage adjustment**)

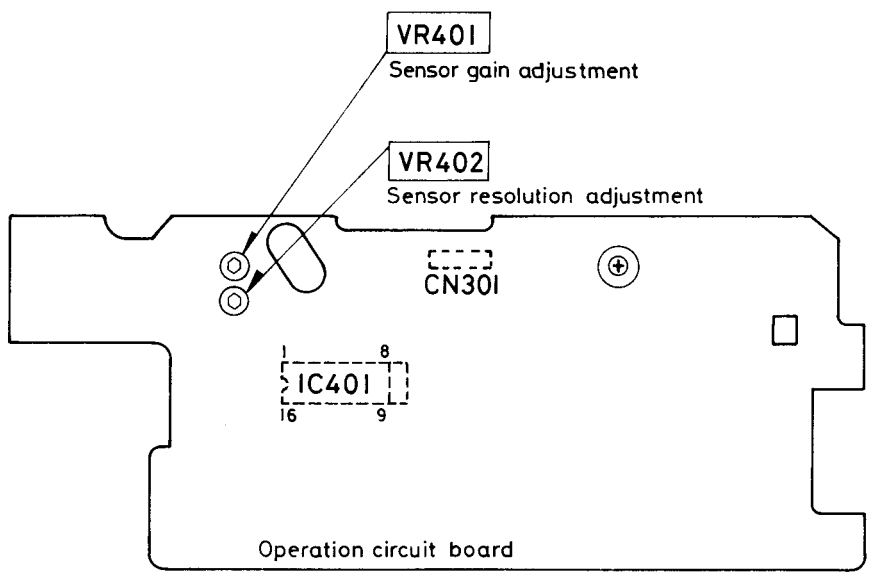


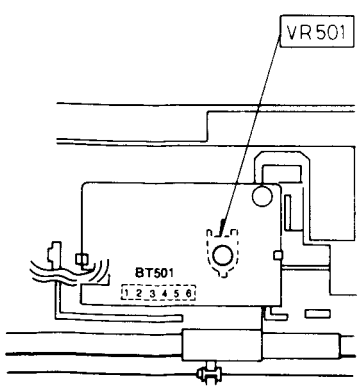
• Tonearm turns to the right

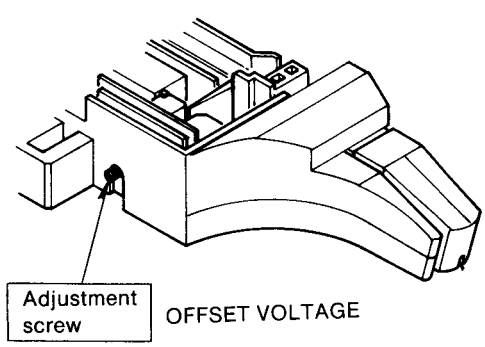
• Tonearm at center



• **Adjustment point**

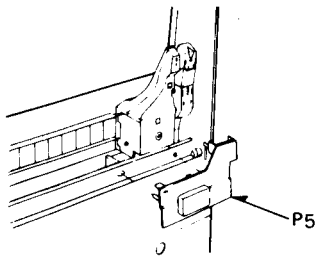




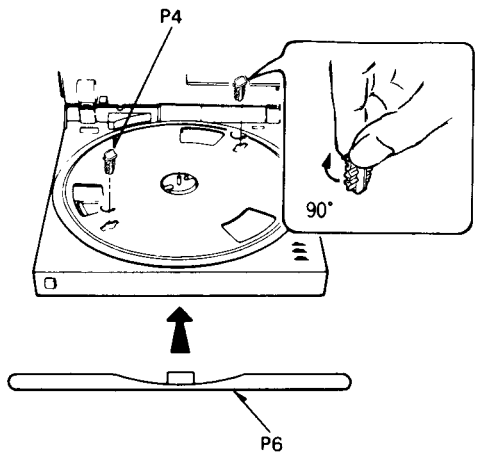


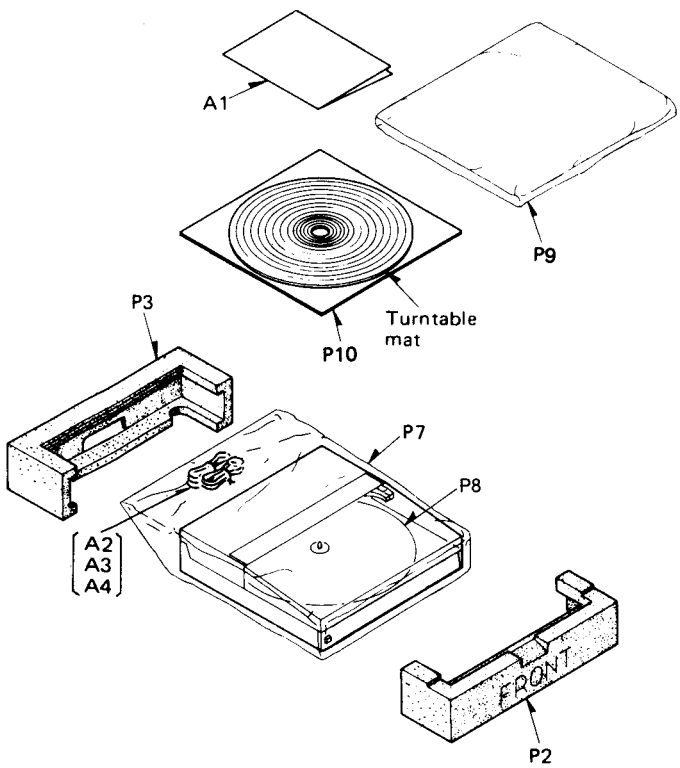
■ PACKING

1. Open the upper cabinet and fit the spacer in place.

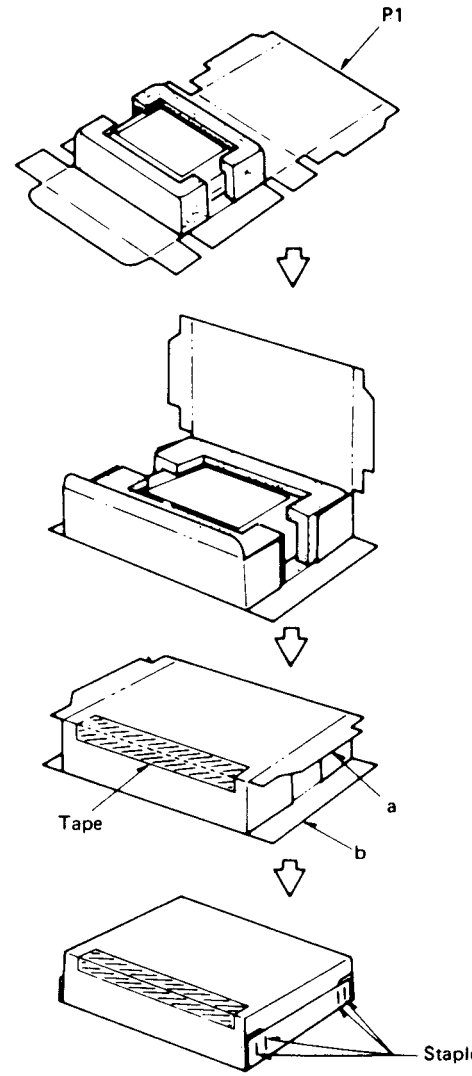


2. Fit the turntable platter clamper and dust cover spacer in place.

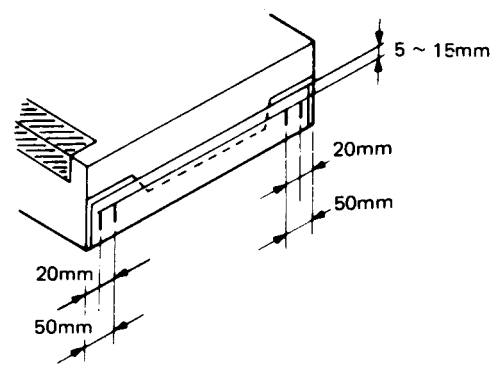




3. Place the unit (with cushions attached) as illustrated.
4. Fold the flaps according to the line marks.
5. Seal the top with adhesive tape.
   *Use gum tape or adhesive cloth tape of 50mm wide at least.
6. For the edges, first fold the flap "a" and then flap "b", and staple. Remember to staple only flap "b". (Use 15 or 16mm staple)



*Stapling positions are shown below.



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